

# Humidity and temperature logger

## NanoVACQ Humidity



Control of temperature and humidity inside your processes...

NanoVACQ humidity is equipped with one humidity sensor and one or two temperature sensors.



NanoVACQ HT 140°C

NanoVACQ HT-Tc 140°C

### Metrology

- 1 capacitive humidity sensor
- 1 internal Pt1000 temperature sensor
- 1 capacitive humidity sensor
- 1 internal Pt1000 temperature sensor
- 1 Pt 1000 temperature sensor at the end of a rigid probe diameter 3 mm > 1,9 mm (hybrid) or diameter 3 mm and length 30 mm (possible from 10 mm to 100 mm).

- **Operation range:**
  - In temperature..... from -60°C to +140°C
  - In relative humidity... from 0 to 100 %RH non condensed
- **Measurement range:**
  - In temperature..... from 0°C to 140°C
  - In relative humidity... from 2 to 98 % RH
- **Calibration uncertainties:**
  - In temperature..... +/- 0.1°C from 0°C to 140°C (+/- 0.05°C upon request)
  - In relative humidity... +/- 3.5 %RH from 2 % to 98 %RH

*The uncertainties correspond to two standard deviations.*

*The standard uncertainties are calculated taking into account the various significant error sources, including calibration sensors, equipments, environmental conditions, the influence of the logger, repeatability, etc...*

- **Resolution and noise:**
  - In temperature..... 0.04°C
  - In humidity..... 0.06 %RH
- Annual check-up and recalibration are recommended
- Each logger can be calibrated and checked at the temperature points needed by the users.
- NanoVACQ HT are non-watertight when exposed to liquids or steam.

### Technical specifications

- **External material biocompatible:** 316 L stainless steel
- **Dimensions:** diameter 31 mm, overall height 55 mm
- **Sensors:** Temperature... Pt1000  
Humidity..... capacitive
- **Memory capacity:** 48 000 acquisitions divided by the number of measurement channels
- **Programmable acquisition rate:** from 1 second to 59 minutes and 59 seconds
- Programmable acquisition duration.
- User replaceable battery

### Software operating conditions

- Data transfer with a communication interface connected to the USB port.
- Operates under Windows® XP(SP3)/Vista/7

#### NOTA :

*Annual maintenance is recommended for replacement of o-rings, calibration and adjustment.*



TMI-ORION - Parc de Bellegarde - Bât. C - 1, chemin de Borie - 34170 Castelnaud-le-Lez - FRANCE  
Tel +33 (0)4 99 52 67 10 - Fax +33 (0)4 99 52 67 19 - www.tmi-orion.com

TMI-USA - 11491 Sunset Hills Rd., Suite 310 - Reston, VA 20190 - USA  
Tel +1 703 668 0114 - Fax +1 703 668 0118 - www.tmi-orion.com

# NanoVACQ Humidity

## Radio Option

Real time data



**NanoVACQ Radio** are autonomous transmitters/recorders equipped with sensors.

They have been developed to enable two functions: real time radio transmission of the data measured by the sensors and recording of the transmitted data.

All NanoVACQ Humidity are available with optional 2.4 GHz radio transmission.



They are designed to support temperatures from  $-60^{\circ}\text{C}$  to  $+140^{\circ}\text{C}$ .

- The body of the NanoVACQ Radio is 31 mm in diameter, its overall height is 60 mm.
- The 50 mm long NanoVACQ Radio antenna is removable from the body. It allows data transmission by hertzian channel.
- The NanoVACQ Radio can be set up by the user. The operation mode of the device may be selected during set up:
  - Radio transmission of data without recording them in memory.
  - Radio transmission of data while recording them in the memory.
- The frequency used by the radio transmitter is within ISM 2.4 GHz bandwidth (industrial, scientific or medical devices). This bandwidth can be used without licence.
- NanoVACQ Radio uses the technology based on the IEEE 802.15.4 standard, which enables to manage various loggers in the same space with more frequent sampling.
- The receiving base station can be connected either directly by USB or using a long distance connection RS485 type, or an Ethernet connection or a wifi signal.
- Various types of receiving antennas can be connected to the radio receiver according to loggers use.
- 25 meters in clear field, may vary according to the application environment.

### NanoVACQ radio transmission

Reach between  
transmitter and receiver



TMI-ORION - Parc de Bellegarde - Bât. C - 1, chemin de Borie - 34170 Castelnau-le-Lez - FRANCE  
Tel +33 (0)4 99 52 67 10 - Fax +33 (0)4 99 52 67 19 - [www.tmi-orion.com](http://www.tmi-orion.com)

TMI-USA - 11491 Sunset Hills Rd., Suite 310 - Reston, VA 20190 - USA  
Tel +1 703 668 0114 - Fax +1 703 668 0118 - [www.tmi-orion.com](http://www.tmi-orion.com)